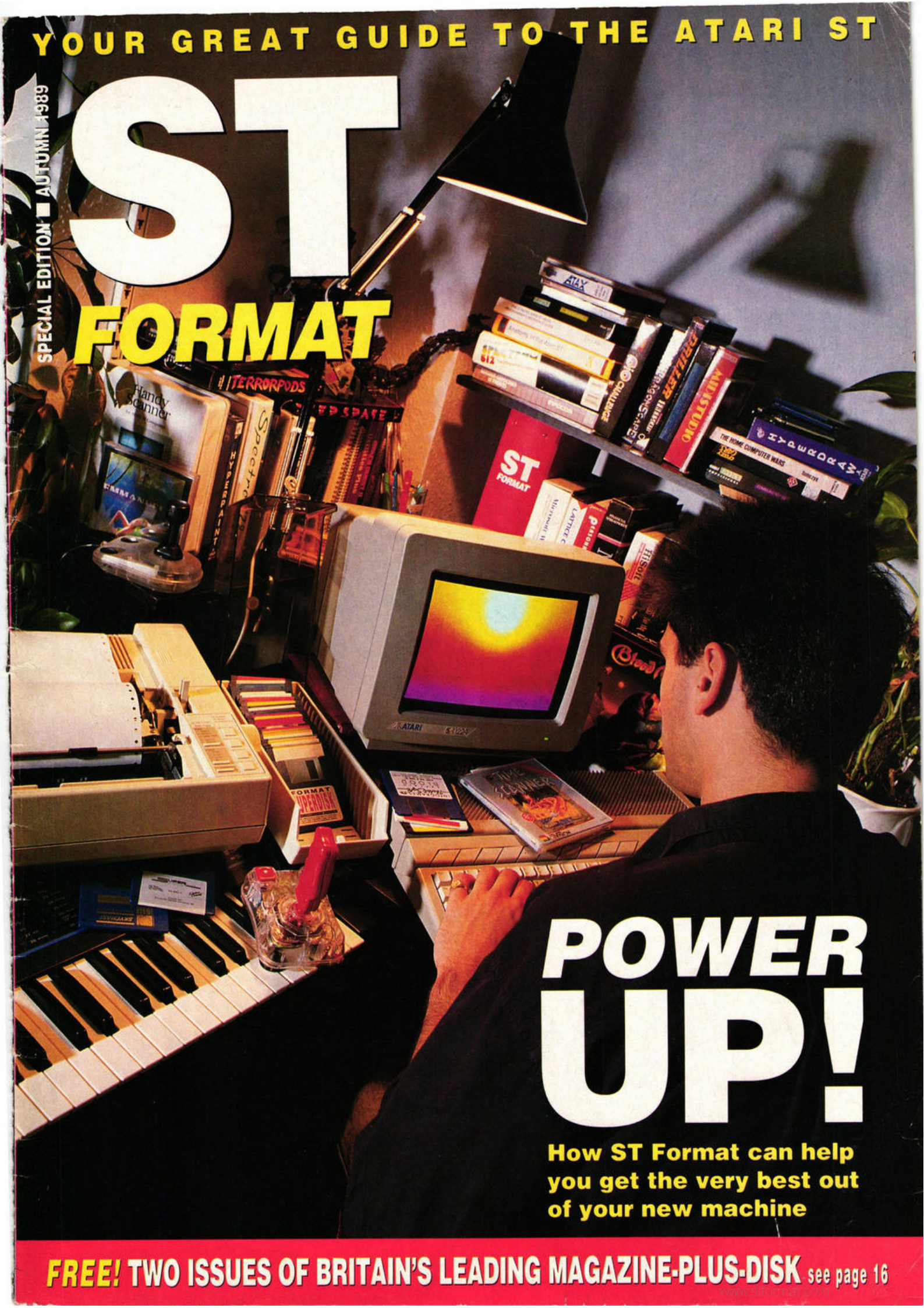
YOUR GREAT GUIDE TO THE ATARI ST

SPECIAL EDITION ■ AUTUMN 1989

ST FORMAT



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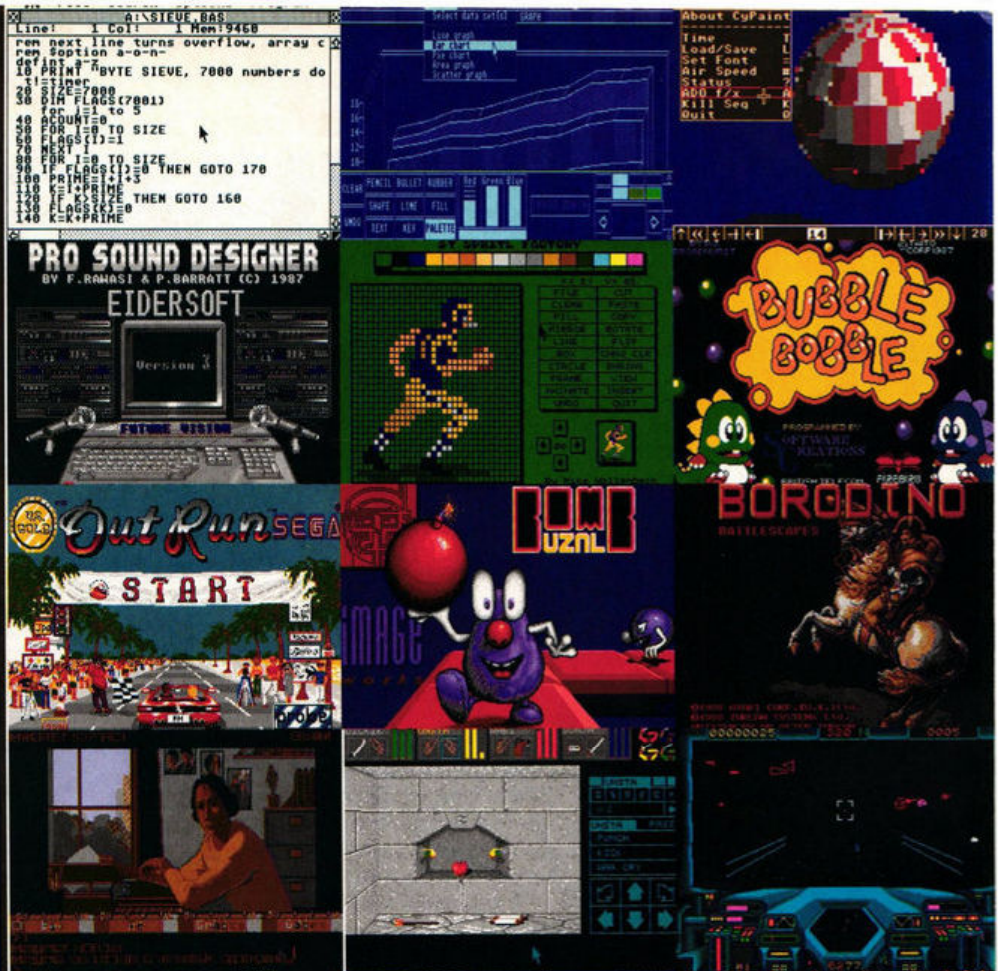

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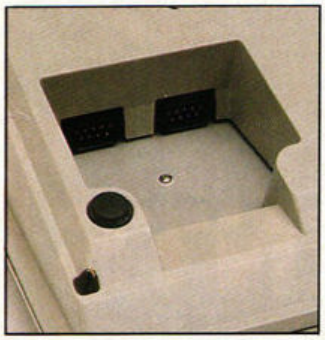
STARTING OUT

Your first few hours of computing with your Atari ST needn't be traumatic. Here's everything you need to get going.

Congratulations, your choice of computer won't disappoint you. The ST is unlike any computer you might have used before. Its combination of powerful hardware and simple user interface make it ideal for the absolute beginner and the hardened hack. Whatever category you fall into, stick to this guide and you won't go wrong.

Before you plug anything into the ST, or plug the ST into anything, examine the machine. First look at all the sockets it offers. These ports allow the ST to communicate with the outside world.

You will have to plug a mouse, joystick, aerial or monitor lead, and a power cable into your ST. Flip the



■ Underneath the ST you'll find two identical ports. The one marked Mouse/Joystick Port 0 can be used to house the mouse that comes with the Powerpack or a joystick. Joystick Port 1 can only be used for controlling a joystick.

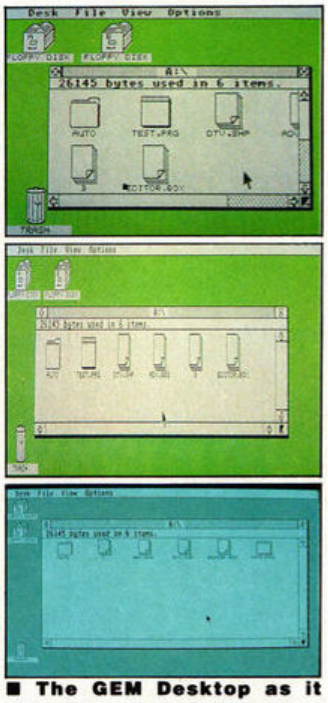
ST over and insert the mouse into the port labelled Mouse/Joystick 0. While the ST is in this position you can also attach a joystick. An Atari joystick is included in the Powerpack – this goes into the port marked Joystick 1. Turn the ST over. You're nearly there.

If you've got an Atari monitor – the colour SC1224 or monochrome SM124, say – plug the lead from the monitor into the socket on the ST labelled Monitor. Check with your dealer before using a non-Atari monitor with your ST; you'll need a custom lead which your dealer should be able to supply. If your dealer can't help you with a lead, or isn't sure whether your monitor will work with the ST, Lightwave Leisure on 051 6395050 can help. If you're using your ST with a TV then plug one end of the supplied wire into the ST's RCA jack and the other into the aerial socket of the television.

Finally, attach a plug to the supplied power cable and insert it into the appropriate socket at the back of the ST. Switch on the monitor or TV (and anything else you may have plugged into the ST), switch on the ST, insert the disk entitled Language Disk into the drive, and wait...

WHAT A GEM

After a few seconds of disk drive whirring you will be presented with the GEM Desktop. The desktop is graphically designed to resemble



■ The GEM Desktop as it appears in all of the ST's three resolutions.

an office with file drawers, desktop working area and a trash can. This is the starting point for almost everything you do with your computer.

This sort of front end is called a WIMP (windows, icons, mouse and pointer) environment. The pointer is a tiny arrow resting in the middle of the screen. Move the mouse and the on-screen pointer will move. The computer detects the direction, distance and speed that the mouse is moved and forces the screen pointer to move in a similar manner. Practise moving the mouse round the screen.

If you move the mouse pointer over the Menu Bar located at the top of the screen, a menu will drop down. These menus contain various options which can be selected by you. Move to the Desk menu and single click using the left mouse button on Desktop Info. A box will appear giving you details about the ST. Towards the bottom of the box you'll see the word OK enclosed in a small rectangle. Move the mouse pointer so that it rests inside the rectangle. Press the left mouse button when you've finished reading the contents of the box.

Towards the top left of the screen you will see two icons (small pictures that, in this case, represent filing cabinets) with 'Floppy Disk' printed underneath. By clicking on these icons all sorts of disk operations can be performed.

Move the mouse pointer so that it rests over the Floppy Disk A icon and press the left mouse button twice. This double-click action must be performed quickly otherwise nothing will happen. If you double-clicked correctly, a window will appear displaying the contents of the disk in drive A (the internal drive). The files on the disk will be displayed as icons. Two types exist: the program file icon and the

CAVORTING WITH THE KEYBOARD

Following are some keyboard shorcuts you might find useful:

■ Pressing Alternate while holding down one of the arrow keys will move the mouse pointer in the direction of the arrow.

■ Alternate Shift together with a cursor key can be used to move the mouse pointer in very fine pixel increments.

■ Alternate Insert mimics a left mouse button click.

■ Alternate Clr/Home is the same as clicking the right mouse button.

■ Alternate Help will dump the screen to printer. If you don't have a printer attached, control will only return after 20 seconds or more.

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data file icon. A third icon looking like a folder may be present.

KEYBOARD CLUES

You'll have noticed that neither the keyboard or the right mouse button have been touched – that's because the GEM Desktop makes little use of them. Forget complex sequences of typed commands; the Desktop is designed to make communicating with the ST easy.

The ST's keyboard is similar to a conventional typewriter keyboard in both design and operation. There are four distinct blocks of keys, the largest of the blocks conforms to the QWERTY layout. At the very top are the quaintly angled F or function keys. While these keys don't serve any purpose from the Desktop, many commercial packages use them extensively.

To the right of the main keyboard you'll notice the cursor cluster which, along with arrow keys, contains special keys. Again, these keys aren't generally used by the GEM Desktop, but a lot of software makes use of them. Finally there's the calculator keypad.

The alphanumeric keys (letters, numbers and other symbols) function like the similar keys on a typewriter. The Control, Shift and Alternate keys are often used simultaneously with another key to produce a secondary function or character.

WHAT'S ON THE MENU?

Items on the menu bar include Desk (which has already been dealt with), File, View and Options. The important facilities in the File menu include Show Info and Format.

By highlighting a disk drive icon or file icon – done by single clicking on the icon – and clicking on Show Info you can find out how much free space there is on a disk or how many bytes a particular file takes up. Don't use the Format option on an important disk. Formatting erases disks completely! Highlight a drive icon and click on Format. Click on the OK button and select the type of disk you wish to format; either single sided or double sided. As your ST has a double sided disk drive, you might as well pick the double sided formatting option. When formatting is complete an alert box will appear telling you how much room there is on the disk. Click on OK when you've finished.

The View menu provides you with options for displaying the contents of a disk in various formats. Files can be shown as icons or filenames and can be ordered alphabetically, by date, by size or by extension.

From the Options menu you can choose the screen mode. If you're using a colour monitor or TV you can select low or medium resolution. Only high resolution is possible using a monochrome monitor.

■ **The various menus available from the Desktop.**

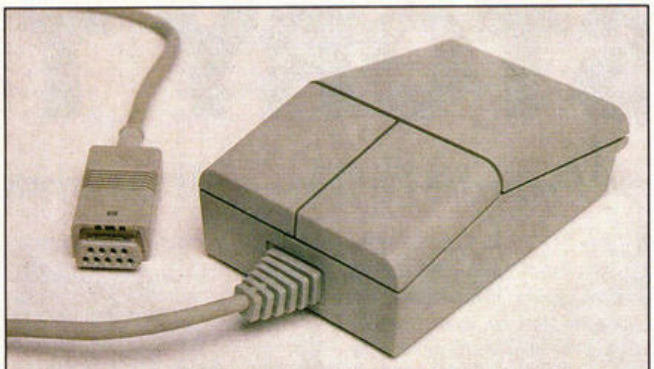
ON THE RUN

Now that you know your way round the ST, you'll be itching to run the software that's supplied free with the Powerpack. Start with the Language disk. Insert the disk in the drive and hit the reset button. After a few seconds the Desktop will appear; double-click on the drive icon to produce a directory of what's on the disk.

You'll recognise executable files by the program icon and the TOS, TTP or PRG extension. Simply double-click on such a file and it will run. If you double click on a non-executable file, an alert box will pop up with the options Show, Print and Cancel. Clicking on Show will result in the contents of the data file being displayed on screen. Press Q for quit or Control C for Cancel to return to the Desktop at any time. Print sends the file to the printer while Cancel returns you to the Desktop.

Inserting a game disk into the drive and pressing the reset button often results in the game running automatically. There's nothing mysterious about this. Programs can be made to execute automatically or 'auto boot' by placing the desired program in an AUTO folder. The GEM system looks on the disk for an AUTO folder and runs any PRG files it finds inside it before displaying the Desktop. Unlike serious software, games often lack an exit option. Pressing the reset button is usually the only way out. Don't panic if this doesn't work: some programs bypass the reset button. Switching the mains button off and back on is the only option in this case.

Enjoy your ST... there's plenty more to discover.



■ **The mouse looks like an upside down tracker ball; the topside has two buttons with a wire ending in a standard female Atari joystick connector while the underside has a ball which rotates as the mouse is moved across a surface.**

JARGON BUSTERS

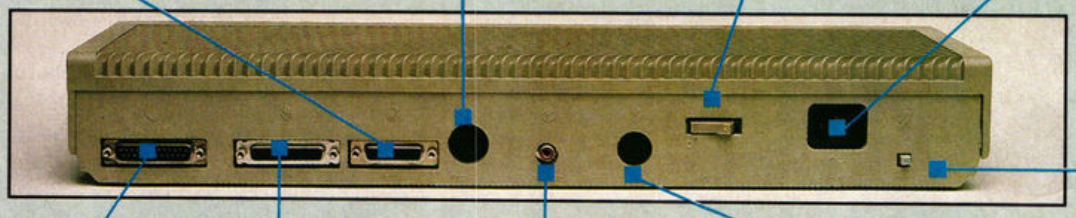
CD ROM – a device that plugs into the computer and lets the computer read information stored on CDs. Works like a disk drive, but is read only.

HARD DISK DRIVE – a device used to store data on a magnetic surface. A hard disk can store much more data than a floppy, is a lot more reliable and can read and write data many times faster.

LASER PRINTER – a high speed, high resolution printer that electrophotographically produces an image on paper.

MODEM – a device that lets you connect your computer directly to the telephone lines in order to establish a communication link with other computers and online information networks.

PERIPHERAL – any device, such as a disk drive, monitor or printer, that can be attached to the computer.



Hard Disk. Also known as the DMA (direct memory access) port, the hard disk socket can be used as a gateway to a hard disk drive, laser printer, CD ROM player or other high-speed peripheral.

Floppy Disk. A second 3.5 or 5.25-inch drive can be attached via this port.

On/Off. The switch turns the computer on and off.

Power. The power jack connects the computer to a mains power source.

Reset. This button resets the computer.

Modem. Also called the serial or RS232 port, the modem interface allows the ST to talk to other computers via a modem.

Printer. The printer port is an industry-standard parallel interface, which means almost any parallel printer can be attached to it.

RCA Jack. A television can be used to display the computer's video image.

Monitor. An Atari colour or mono monitor can be plugged into this socket.

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STORY TIME

From Pong to the Portfolio – a look at Atari past, present and future.

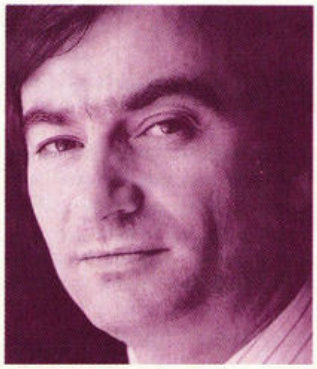
In late '71 Nolan Bushnell, then a product engineer for an arcade-game manufacturer, left his job to start his own company Syzygy. The reason: to market the video game *Pong*. Syzygy didn't last long because another firm had already registered the name. Atari was subsequently born.

For a few months in 1973 the *Pong* arcade game was a huge success – it got Atari on its feet. And at the end of that fiscal year Atari clocked $3.2 million in sales.

Although Atari was successful, it needed big money to go places. And the only way to get that sort of dough was to find a buyer. Warner Communications appeared on the scene and willingly parted with $28 million in August of 1976. Bushnell got half that amount and stayed on as chairman for two years after the takeover. During that time he witnessed the launching of the Video Computer System and 400/800 home computers. Bushnell eventually resigned in early '79 after Warner blamed him for the failure of the VCS machine.

BIG MONEY

Although Atari hit an all time high with sales in excess of $2 billion in 1982, it soon hit rock bottom in 1983 when the full impact of Commodore's more keenly priced VIC and C64 became apparent. Commodore's success was down to its president, Jack Tramiel, who treated business as war. Commodore's domination, and Atari's demise, would have continued if it wasn't for chairman Irving Gould's disapproval of Jack's intention of putting the Tramiel sons in executive positions throughout Commodore.



■ **Bob Gleadow, head of Atari's operations in the UK.**

Jack said goodbye to Commodore in January 1983 – Friday the 13th! It was certainly unlucky for Commodore because, over the next few months, much of Commodore top talent left. By this time Warner's Atari was in serious trouble; around $538 million in trouble. Warner approached Jack with a proposition that is still a little hard to believe. The final deal involved Warner selling Atari to Jack and Jack borrowing the money from Warner to buy Atari!

Before Jack took over Atari, someone at Atari commissioned Amiga Inc (to the tune of $500,000) to work on some exciting new custom chips for future machines. Amiga Inc became unhappy with the way Atari handled the affair and refunded the money. The developments were sold to Commodore for $20 million. These developments, of course, eventually turned out to be the Commodore Amiga A1000!

NEW MACHINE

Without wanting to get left behind, Atari started work on its own 68000-based machine. In little more than a year the ST was put together – the important chips in the Amiga, remember, were designed over several years. The ST would never have made it if many of Commodore's key members hadn't joined Atari and many off-the-shelf items like GEM weren't packed into the machine.

The ST was first shown at the January 1985 CES show in the States. The original model was a collection of boxes – the keyboard and processing unit, the disk drive and the power supply. The operating system, TOS, had to be loaded from disk. Five months later the ST was displayed at the PCW show to an incredulous public. Not long after, the ST was available. Price for a 512K machine with mono monitor: £749.99.

BIG BROTHER

By now you'll have a good idea of what your machine is all about and what it can do. However, there are other members in the ST family – while they all offer 100% compatibility with the 520, there are subtle hardware differences.

After the 520 comes the 1040; it's identical to the 520 apart from an extra 512K of memory. Next comes the three Mega machines. These are very different in design to the 520 and 1040. The main processing unit is separate from the keyboard.

All Megas have a real-time clock, blitter chip (for speeding up graphics operations), fan and internal expansion bus. The difference between the Mega machines is the amount of memory they offer – from 1Mbyte to 4Mbytes.

ATARI ADD-ONS FOR YOUR MACHINE

■ **Fast and reliable with large storage capacities – that's what the Megafile hard drives provide. Available in 30Mbyte (£499.99) and 60Mbyte (£689.99) versions.**

■ **The SF314 (£149.99), external double-sided floopy drive, comes with a power supply and matches the ST's style.**

■ **There's the SC1224 monitor (£299.99) for colour and the SM124 monitor at £149.99 for monochrome.**

■ **For high quality 300 dots per inch output there's the SLM804 laser printer at £1379.99.**

Your local Atari dealer will be able to demonstrate any product mentioned here. In case of difficulty write to Atari Corp, Atari House, Railway Terrace, Slough, Berkshire, SL2 5BZ. All prices quoted were correct at the time of writing.

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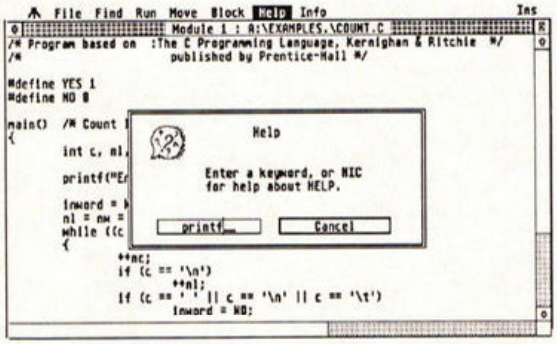
New High Quality Software from HiSoft



HiSoft C Atari ST £49.95

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- ✓ Makes C a joy to learn ... and use
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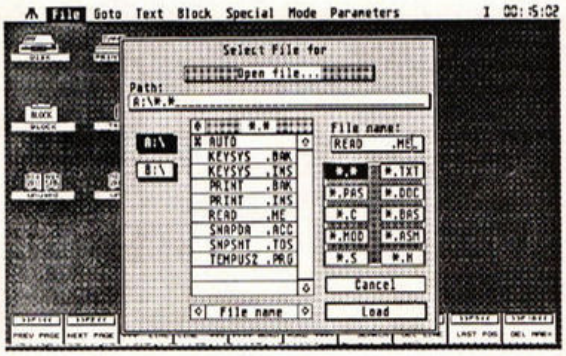

TEMPUS 2 Atari ST £39.95

- ✓ Super-fast, full-featured, GEM-based screen editor
- ✓ All the power you want, to edit up to 4 files at a time ...
- ✓ With optional word-wrap, structure check, cross reference, wildcards in both search and replace strings, file sort, full keyboard shortcuts, even integrate Tempus 2 with your favourite programs using the powerful Run Other facility
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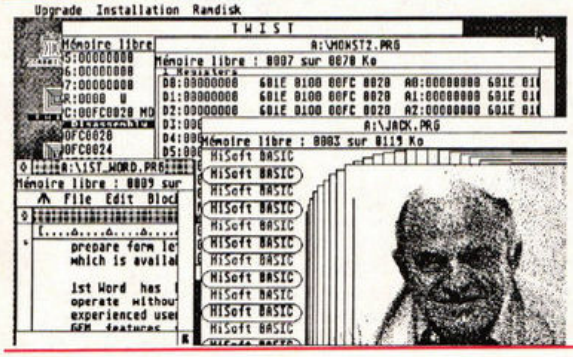

TWIST Atari ST £24.95

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New Releases - Atari ST

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Atari now has five machines in the ST range – with promise of another three shortly – and numerous peripherals to complement them. Atari also has several PC-based machines including a hand-held PC compatible machine which fits neatly into a jacket pocket.

Today Atari's tentacles cover most corners of the globe. There are around a million STs throughout the World. With the ST being such an international beast, the machine's longevity is assured. You can expect an international flavour of software for a long while.

Atari is committed to expanding its ST range. For a long time there has been talk of Stacy, a laptop version of the ST. And it's very likely that there will be a workstation offering ST compatibility by the end of the year.

Looking further afield, there's the possibility of an STE (the 'E' for enhanced) which will be like the 520 but with even better graphics and sound. After that it's anyone's guess.

It's all very well speculating on new machines... the ST is here now, there is plenty of support for it, and its technology is good for many years to come.

SPEAK SOFTLY

In the early days Atari was a prolific software publisher, with many coin-op conversions to its credit. When things turned sour the software arm was dropped. Atari has recently restarted its software operation and already has some excellent games and productivity titles under its belt.

APPLICATIONS

LDW Power, £129.99
A spreadsheet featuring Lotus 1-2-3 compatibility, simultaneous use of up to four worksheets, over 80 functions, five types of graphic display, sideways printing and nearly 300 commands.

Microsoft Write, £149.99
A word processor that provides you with all the standard text editing and formatting tools you need. You can display and work on multiple documents, choose from a variety of fonts, create glossaries, print text in columns and much more.

HyperDraw, £39.99
Unlike most graphic programs, HyperDraw is an object-based drawing package. All the elements making up a complex drawing are stored as objects with a full description containing details on the type of object, the position of all relevant parts of the object and the way in which the object is drawn.

■ **An example printout from HyperDraw.**

GAMES

Prince, £19.99
Stalemate! Two princes hold roughly the same sized territories

and armies on an island. Each has the ambition to conquest the other half of the island. Your task is to take control of one of the princes and lead your armies to victory.

Enterprise, £19.99
You are in control of one of the latest Star Fighters. The Federation has charged you with the task of locating quantities of heavy atomic nuclei to maintain the orbiting device looking after the ozone layer of the planet.

Star Breaker, £14.99
Simple. Tear round the planet surface blasting any unwanted aliens in your path. Pretty graphics, smooth animation and realistic sound effectss.

Tempest, £14.99
One of Atari's early arcade games converted convincingly to computer format. The idea is to fly round the rim of a tube and blast anything that emerges.

WIN A YEAR'S SUPPLY OF SOFTWARE!

Unbelievable but true! Atari is giving away every title it releases over the forthcoming year to the winner of this fabulous competition.

Atari will be releasing numerous applications and games during the next year. If this year is anything to go by, you could end up with over £500 in software. It will be one long Christmas for the lucky winner.

You really don't want to miss out on this opportunity.

To be eligible simply write the answers to the questions below on a postcard or the back of an envelope and address it to **ST Format Powerpack Competition**, Future Publishing, 4 Queen Street, Bath, BA1 1EJ. All entries must be in by January 10th. The winner will be announced in the February edition of *ST Format*.

If you're stuck, the answers to the questions can be found in the pages of this magazine.

QUESTIONS

1. Who founded Atari?
a) Jack Tramiel
b) Nolan Bushnell
c) Jack Nicholson

2. What is the maximum number of colours the ST can have on screen when running in low resolution?
a) 4
b) 512
c) 16

3. In which game do you control a Ferrari?
a) Outrun
b) Overlander
c) Starglider

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PIXEL PORTRAITS

It's all very well having 512 colours and high resolution modes on the ST; without the software you'll get nothing.

Three graphics modes are available on the ST: high, medium and low resolution. The palette offers 512 different colours.

High resolution mode can only be displayed on a special Atari monochrome monitor or Multisync monitor. Images in high resolution are only black and white, but very sharp due to the number of dots (or pixels) displayed vertically and horizontally: 640 by 400. Medium resolution offers 640 by 200 pixels with a maximum of four colours on screen. Low resolution manages 16 different colours on screen at once with a pixel resolution of 320 by 200. Both medium and low resolution can be displayed on a TV or standard monitor.

Now that you know what your machine can do, get out there are unleash its potential. However, picking the right graphic package can be a headache – particularly when there are so many to choose from. It also depends what you want to do. You might only be interested in animation, producing object based images, or high resolution pictures. Whatever you want, there is something to suit your needs.

DEGAS ELITE

£24.95, Colour and mono, Electronic Arts, 0753 49442

One of the very early painting programs for the ST, and still one of the easiest to use and cheapest to buy. Drawing can take place in any mode and, memory permitting, up to eight pictures can be loaded in

for editing. Both *Neochrome* and IFF (interchangeable file format) formats are supported. Blocks of any shape can be cut and pasted.

SPECTRUM 512

£59.95, Colour only, Electric Distribution, 0480 496666

Forget what the textbooks say about the ST only being able to display 16 colours at most – *Spectrum 512* makes it possible to use all 512 glorious colours on screen at once. A variety of anti-aliasing options make it possible to give objects very smooth edges while gradient fills produce very subtle shading. While you'll certainly be

able to create some very pretty pictures, there are features missing that almost all other art packages include. Overlaying text on images, polygon drawing and grid lock are three. Do note that your machine needs 1Mbyte of RAM.

Every month *ST Format* has a section of the magazine devoted to all matters graphical. You can learn about forthcoming hardware and software, read reviews of the latest products, find out how the experts draw and animate, discover tricks you never knew your packages were capable of, and get answers to your technical problems. If you've got any graphics problems for the experts, write to Pixel Problems, ST Format, Future Publishing, 4 Queen Street, Bath, BA1 1EJ.

CYBER PAINT 2

£69.95, Colour only, 1Mbyte required, Electric Distribution, 0480 496666

All traditional graphic tools are present as are some wonderful extras: the whole screen can have a sine wave applied to it, two colours can be chosen and the computer forced to generate the colours in between, the entire picture can be softened by using a technique called defocusing. A single image can be made to describe elaborate paths in any plane and direction. Draw one frame and let the computer calculate the rest.

HYPERDRAW

£39.99, Colour and mono, Atari, 0753 333444

All elements making up a complex drawing are stored as objects with a full description containing details on the position of all relevant parts of the object and the way in which the object is drawn. Object based images are ideal for importing into desktop publishing software because the quality of the final drawing depends on the resolution of the device used to produce it.

TIPS AND TRICKS EVERY ST ARTIST SHOULD KNOW

DESKTOP BLUES

Normally the GEM Desktop will appear with a sickly green colour in the background. Is is possible to change this colour – and any other colour on screen – by using the Control Panel accessory given away on the language disk. Simply reset the machine and insert the language disk in the drive. When the Desktop appears go to the Desk menu. Click on Control Panel and wait for a window to appear. Click on the colour you wish to change and move the RGB slide bars to get the shade you want. Exit by clicking on the icon in the top left of the window.

SHOESTRING ANIMATION

A RAM disk is a handy utility that simulates a disk drive in memory; you can store files and retrieve files from it just like an ordinary drive. Because there aren't any mechanical parts everything happens much faster. You can create simple animations by saving several picture files into a RAM disk and running a slideshow program (like the one supplied with Degas). The images will be loaded and displayed very quickly giving the illusion of animation.

CPC TO ST

If you've moved up from the Amstrad CPC computer you will be pleased to know that you can use your Amstrad's monitor with the ST. Simply follow these connections.

CPC	ST	Signal
1	13	Ground
2	3	Composite
3	11	Blue
4	7	Green
5	6	Red

Your CPC and ST manuals will have diagrams of the monitor ports; these will show how the pins are numbered. The red, green and blue signals require resistance; 120ohms proves best. Although if you used a variable resistor you would be able to alter the brightness to your liking.

Please note that neither Future Publishing or Atari will be responsible for any damage you cause to your ST or your CPC monitor as a result of this operation.

ALTERNATIVE SCREEN

The Philips CM8833 or PRO 8CM852 are very good alternatives to the Atari SC1224 colour monitor. Often these can be picked up cheaper than an Atari monitor. You will need a special lead with a Scart end to use the monitor – your local Atari dealer will be able to provide the necessary.

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GAME BUSTERS

When the heat's on you and you need a rest; when you're beaten blue and you've tried your best; where ya gonna go? Game-busters! All the help you need to get further

OUTRUN

During the game press the keys making up the word STARION. Then press one of the following:

B – extended play
D – save the screen to disk in Degas format
Q – information about the program
S – move on a location
T – 10 second bonus

GAUNTLET II

Find two keys and then hunt for a locked treasure chest. Press the Help key at the same time as you open the chest. Repeat the procedure, but this time press the Insert key. You'll be granted a whole heap of health. This works repeatedly and on any level.

STARGLIDER

Launch your ship, press F and A for fixed cross hair, slow down to zero velocity and press Backspace to pause the game. Type JS ARG S (include the spaces). Slow down to zero velocity, pause the game again and type JS ARG S. You can tell if the cheat is activated as all the instruments will move to the centre position. You can now fly around blasting everything without worrying about being hit.

Press M if you want to be really lazy; this halts the aliens allowing you to give them hell.

Another stab at M will restart the beings from outer space. Missiles are topped up by pressing P.

OVERLANDER

Go for the highest value cargo. Fill up with fuel and save the rest of the money for the next level. Keep your speed between 105 and 120 mph; the green speed indicator should be one stop above the blue light. Travelling at this speed means you get through Gunshot Alley safely – make sure you stay in the centre of the road though. Once through this stage you must increase your speed by two or three green lights. You should finish this level comfortably.

When you're on a straight stretch of road and can see a car in front, keep to the centre of the road with machine guns roaring. As the car gets closer it will swerve into your bullets and blow up.

Kamikaze's: keep to the centre of the road with guns blazing. The cars swerve from side to side. You'll get most of them by staying in the same position.

When you've got the cash, the best thing to buy is the Leanburn Conversion; this and a full fuel tank will get you through every level. Buy lives when you can, followed by Battering Rams (for disposing of barriers) and Smart Bombs (for flattening everything on screen). Don't bother with Flame Bombs or Turbo.

Roadhogs: keep nudging them until they crash into a tree or rock.

Offroaders: keep to the left with the barrels blasting for the first three levels. Bombs will drop to the right of you out of harm's way. On later levels it is trickier as bombs fall on both sides of the road.

DOUBLE DRAGON

On the title screen type R U CALLING MY PINT A POFF? and

BOMBUZAL

Following are some codes for you to get further in the game.

Level	Code	Level	Code	Level	Code
28	Sink	60	Vase	92	Lock
36	Bike	64	Ring	96	Song
40	Iron	68	Pill	100	Safe
44	Bird	72	Girl	104	Fire
48	Lead	76	Spot	108	Worm
52	Tape	84	Palm	112	Lamp
56	Weed	88	Opal	120	Tree

ELIMINATOR

Some passwords to get you to higher levels. First press the Help key and then type in the desired password:

Stage	Password	Stage	Password	Stage	Password
2	AMEOBA	6	ENIGMA	10	ICICLE
3	BLOOOP	7	FLIPME	11	JAMMIN
4	CHEEKI	8	GEEGEE	12	KIKONG
5	DOINOK	9	HANDEL	13	LAPDOG

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Return. Pressing Delete during the game kills your opponents.

Start a two player game and hold the fire button and down key on both joysticks.

Press Esc until the credits go haywire. You now have infinite credits. Go ahead, punk, rescue that broad!

NEBULUS

While the title screen is being displayed type HELLOIAMJMP. You can now change levels by pressing F1 to F8 for the respective levels and gain unlimited pogos in the process.

STARGOOSE

Press all the function keys from F1 to F10 to gain infinite shields.

AFTERBURNER

Pause the game and type in THUNDERBLADE or AGES. Now press one of the following keys:
G – extra missiles.
< – jump to the next stage.
N – extra lives.

SUPER HANG-ON

Complete most of a stage so that you get to enter your name at position one in the high score table. Instead of inserting your name, enter 207L. A line of dots will appear rather than the code you entered.

Wait until the next screen appears and then press Control, Alternate, Z and T in that order. Wait until the next screen appears and then let go of T. The cheat mode will become activated. You can now change the centrifugal force. Change it to zero and you will be able to hold down the nitro without a care.

STARRAY

During the game type AL, press fire and then type YANKOVIC. Now press F5 for infinite shields or F6 to complete a level.

WIN THE LATEST GAMES

The Game Busters sections appears in *ST Format* every month crammed with tips, pokes and game-busting ploys. It's the gameplayer's indispensable guide to beating the latest games. If you've discovered a secret password, written a poke, completed an adventure or found other underhand methods of winning, send your tips to Game Busters, ST Format, Future Publishing, 4 Queen Street, Bath, BA1 1EJ. The best submission each month wins games to the value of £50.

While the games supplied with the Powerpack are wildly addictive, there are many games out there that no self respecting ST owner should be without.

ST Format presents its list of favourite games. The list of greats is designed to cater for a spread of tastes. There's everything from the most addictive and simple arcade games to the most involved and complicated strategy games. It's impossible to put the games listed here in any order of merit, so they are presented in a purely random order. Remember, these are the games *ST Format* rates highly – you might have other ideas, but we think not.

FORMAT GOLDS

ST Format presents ten games that no ST owner should be without.

Borodino

Atari, £29.95

Your chance to rewrite history; you can become Napoleon and run your campaign strategy or take the role of Prince Kutusov and lead the Russian defence. Wargaming at its very best.

Blood Money

Psygnosis, £24.99

Absolutely stunning graphics and the smoothest multi-directional scrolling yet on an ST. An excellent shoot-'em-up with hordes of aliens just waiting to be pumped full of lead. Blast the aliens, collect the money and increase the size of your gun. Brilliant!

New Zealand Story

Ocean, £19.99

Exceptionally cute graphics and wildly compelling gameplay make this arcade conversions one of the greatest to date. Mindless silliness throughout. Excellent.

Bubble Bobble

Firebird/Microprose, £19.95

Infuriatingly addictive gameplay. There's not much to think about, just wacky bubble-blowing action all the way. Single player or simultaneous two-player thrills through 100 levels of mayhem. A superb conversion of a great coin-op game.

Corruption

Magnetic Scrolls/Rainbird/Microprose, £24.95

An interactive graphical adventure that'll have you sweating over cryptic clues and gasping at the glorious graphics. Undoubtedly one of the very best adventures to appear on the ST.

Starglider II

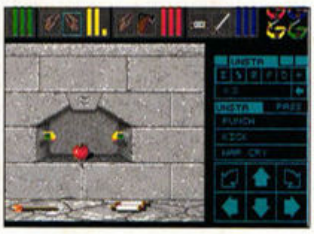
Rainbird/Microprose, £24.95

The first game that really showed off the ST's potential; stunning animated solid 3D graphics, sampled sounds and great gameplay. Can be played as a fast and furious shoot-'em-up or as a strategic exercise.

Populous

Electronic Arts, £24.95

Play God (or the Devil): create and destroy cities, populations, nations and even worlds at a moments notice. One of the most original titles to appear for a long time. It's got everything – terrific sound, graphics and gameplay. Simply divine.



Dungeon Master

Cinemaware/Mirrorsoft, £24.99

It's gained a huge audience of fans already and provides an enormous area of dungeon to explore. There's treasure, trolls, and tales of terrible things throughout. A game that will keep you glued to the screen through the night.

Purple Saturn Day

ERE/Infogrames, £24.95

Oh la la, zose French really nose how tu produce one 'ell of a game. Zuperb sound and graphix. Oui, it is sensational. Zere are four challenges, each with a unique twist that makes zee game so addictive.

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If you want to get the very best out of your ST, then you'll want to get ST Format. Every month, ST Format offers an incredible package:

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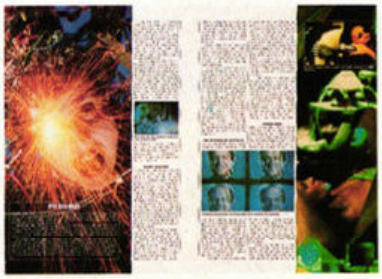

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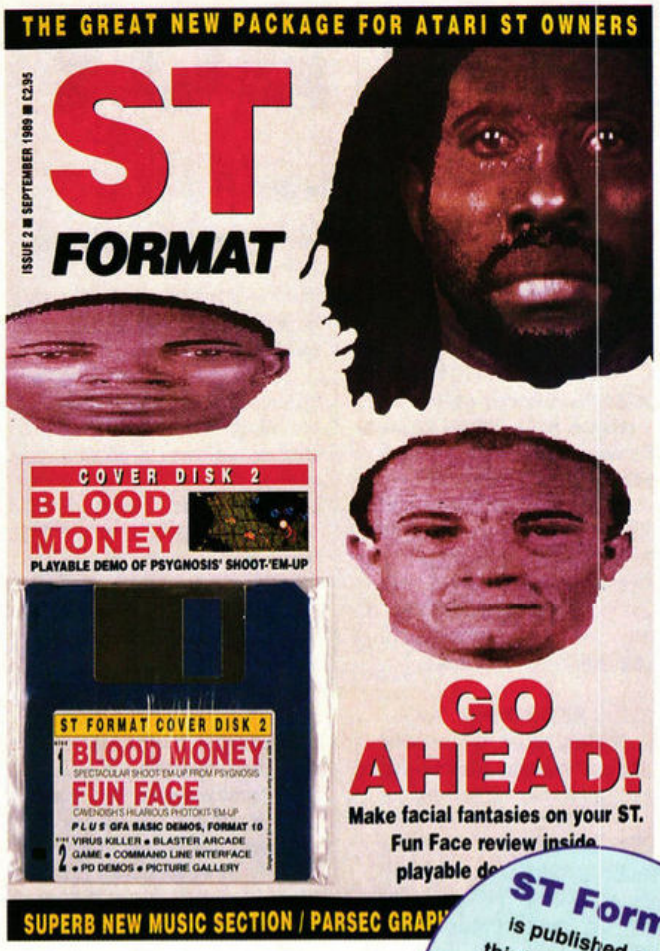
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SUPERB NEW MUSIC SECTION / PARSEC GRAPH

ST Format is published on the third Thursday of every month. As well as being available on subscription, it is sold in WH Smiths, John Menzies and all good newsagents throughout the land

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SONIC BOOM BOY

Making music with your ST is easy... if you've got the correct instruments and software.

Your ST has an in-built sound chip, the Yamaha YM2149 sound generator, which is capable of producing white noise and three-channel music. In simple terms, your ST can produce three quite different notes at the same time. In addition to this, noise like an on-coming steam train or explosion can be generated.

MIDI (musical instrument digital interface) is the other area in which your ST scores highly as far as musicians are concerned. There's an interface offering MIDI In and Out ports on the left side of your ST. MIDI is a communications standard – similar to RS232 (serial) – that allows suitably equipped computers, synthesisers, sound samplers and other devices to exchange musical information. Essentially you can control and play musical instruments from your ST when using MIDI.

Naturally music software for your ST falls into two categories: sound chip and MIDI. This often translates into cheap and expensive respectively. Here are a few of the best in each category.

MUSIC STUDIO

£24.99, Sound chip/MIDI, Activision, 0734 311666

A conventional stave is used to store up to 8000 notes which can

consist of 15 different coloured notes (representing different instruments and channels). Only the last three instruments can be heard through the ST's internal sound chip. The rest can be played over a MIDI instrument of your choice.

MUSIC CONSTRUCTION SET

£24.95, Sound chip, Electronic Arts, 0753 49442

Although pitched as an entry level package, *MCS* contains some sophisticated features often not found in packages costing three times more. It uses conventional music and can print out scores. Compositions play over the ST's three voices and can consist of 16 instruments of your choice.

STEINBERG 12

£129, MIDI, Evenlode Soundworks, 0993 89228

Its big brother, *Steinberg 24*, is considered the industry standard MIDI sequencer. A sequencer is simply a musical note processor; the equivalent of a word processor. You get 12 tracks to record, edit and replay your compositions. The software works much like a tape recorder: record, rewind, fast forward, play. And there's one important extra, edit.

Only one item of MIDI software has been chosen because there is so much stuff out there. It depends very much on what you want to do and which instrument you use. Evenlode will be able to help you with your particular MIDI requirements.

Every month *ST Format* has a section of the magazine devoted to music making. You can learn about new hardware and software, read reviews of the latest products, find out how pop stars make music, and discover tricks you never knew existed. If you've got any problems regarding music making, write to Sound Advice, ST Format, Future Publishing, 4 Queen St, Bath, BA1 1EJ.

INSTRUMENTAL BREAK

If you're going to use the ST's MIDI capabilities then you're going to have to get yourself a musical instrument. Synthesisers aren't the only things that you can connect to your machine via MIDI; there are all kinds of devices – guitars, wind instruments, drums and even microphones.

Casio DH100/800, around £100

They may look like toys, but they've been used by many pop groups on stage and in the studio. The horns are played like recorders – you blow into the mouthpiece and finger the keys as you would a recorder. It's possible to flick a switch and do away with the need for any hot air.

Cheetah DP5/MD8, around £310

The DP5 consists of five full-size electronic drum pads and a strong tubular steel frame. It's not much good on its own as no sound is produced. You can connect the DP5 to an MD8 which offers eight sampled drum sounds.

Cheetah MK7VA, around £400

In the same way that you can buy keyboardless synthesiser modules, you can also save money by buying soundless MIDI master keyboards. The MK7 offers seven octaves of velocity, aftertouch and release-sensitive full-size keys; four key-assignable playing zones; LCD display; pitch bend; programmable modulation wheels.

Casio DG10, around £250

This futuristic guitar isn't like traditional guitars in that the strings aren't tensioned or tuned. It does mean that string-bending is out. The guitar generates notes by detecting the positions of your fingers on the fretboard. There are 20 six-note polyphonic voices including acoustic and electric guitars, trumpet, harp and organ.

MORE ABOUT MUSIC MAKER

Bundled with the Powerpack is *Music Maker*, a program which lets you arrange notes on a stave or record them from a MIDI controller.

If you're going to get your compositions to play over a MIDI instrument, you'll need to connect a lead from MIDI Out on the ST to MIDI In on the instrument. If, however, you want to record what you play on the instrument, you'll need to connect MIDI In on the ST to MIDI Out on the instrument.

An improved version of *Music Maker* – called *FM Melody Maker* – is available from Hybrid Arts. A hardware module plugs into the ST's cartridge port and offers numerous voices, configurable as either nine frequency modulated channels or six FM and five drum channels.

Software houses have been supplied with the music module, so it is likely that many games in the future will support the device. *FM Melody Maker* costs £69.95 and is available from Hybrid Arts at 24/26 Avenue Mews, London, N10 3NP (01-444 9126).

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Virgin Games

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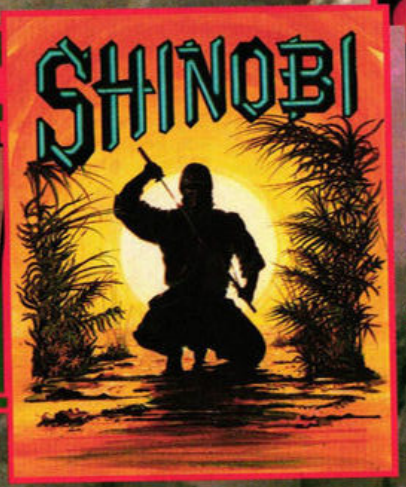

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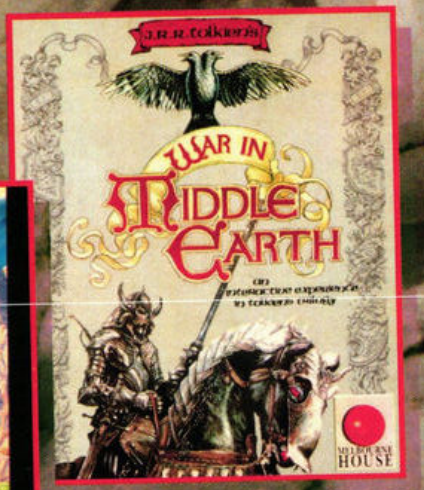

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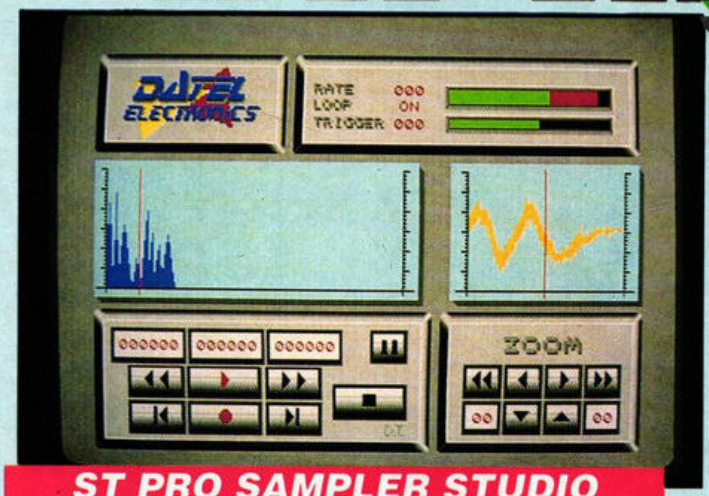

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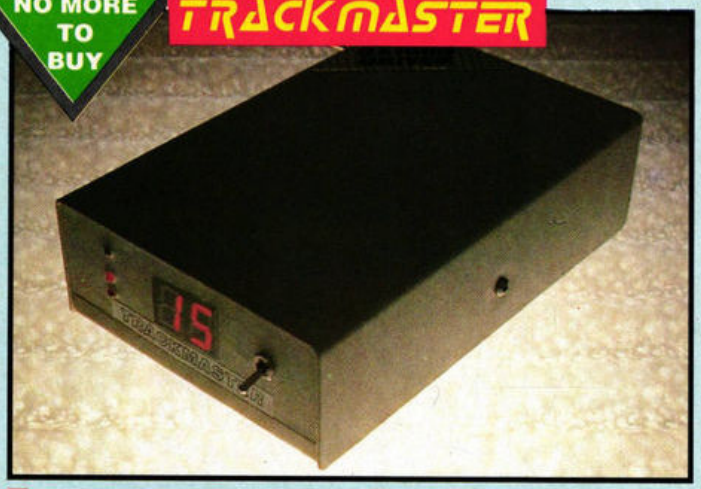

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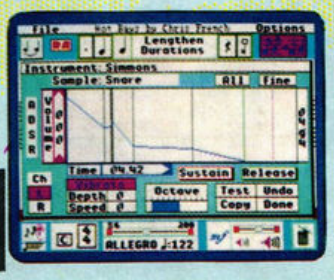

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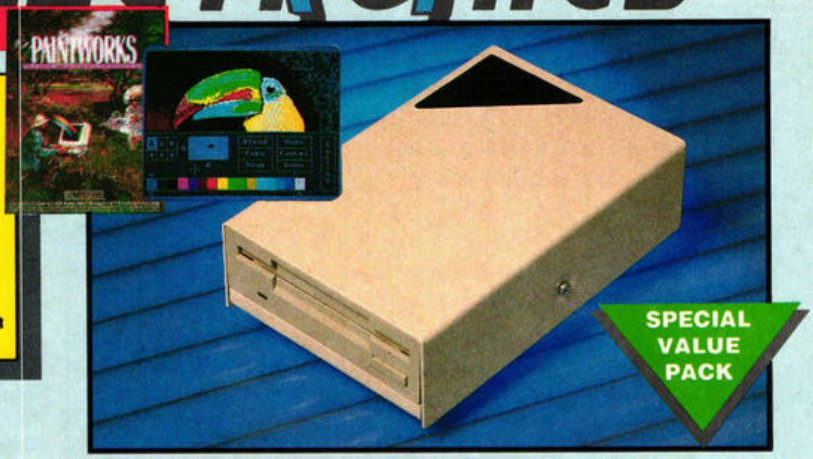

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PROTEXT

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With Protext you can turn your ST into one of the best word processors you can get - better indeed that many business systems costing several times the price. Protext is the fastest word processor by far for the ST.

Why word processing?

Everyone has several uses for word processing. Think how much better your letters will look if printed (Protext will work with whatever printer you decide to buy). You will have a copy of all your correspondence stored on disc for future reference or re-use. You can use Protext for writing notes and updating them later, for keeping records of all kinds, or even for writing programs.

Don't forget - the ST accepts IBM PC 3½" discs so if you use a PC at work you can take documents home for working on your ST.

With PROTEXT, everything is possible.

Why Protext?

Protext has been under development for over 4 years now and has become established as the best business word processor for the ST.

Protext has a fast spelling checker with a dictionary of over 70,000 words to check what you write. The dictionary can even be used for solving crosswords and anagrams.

Protext's powerful features include:

- background printing. You can print and type at the same time.
- box manipuation. Columns can be moved around on the screen.
- macro recording. A sequence of keystrokes can be assigned to a single key.
- use of foreign languages
- headers, footers and footnotes
- wysiwyg ('what you see is what you get') display shows bold, underlining, italics, subscript and superscript on the screen.
- two file editing. You can edit two documents at the same time.
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Prodata is a database management program of professional quality

What can Prodata do:-

Keep data files which are automatically sorted as you add information. The type of data can be very varied, ranging from simple names and addresses to inventories and catalogues and even records of transactions.

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Let you design different ways of presenting the data, e.g. straight list, address labels, tabulated data.

Using Prodata is simplicity itself :-

All facilities are accessed from a few simple to use menus. To set up a new database file you merely need to enter names for each data field - you need not concern yourself with the size of fields or the type of data to be stored or even the total number of fields.

Fantastic undo feature

If you make a mistake you can reverse the most recent changes made by scanning through the old and new versions of changed data (including deleted records) and selectively restoring any as required.

Just some of the features of Prodata :-

- Multiple indexes for accessing data
- Full editing facilities for data
- Comprehensive printing options
- Importing and exporting
- Multiple segment indexes
- Powerful filtering feature
- Easy to use layout design
- Password protection (5 levels)

And of course, Prodata is fully compatible with Protext

[Prodata is available from the start of October 1989. Orders received before this date will be despatched within the first two weeks of October]

There is not room here to list all the features of Protext and Prodata, but those technically minded can receive a full summary by contacting Arnor on (0733) 68909 or by sending an s.a.e. to the address below.

These are amongst the press comments about Protext:-

"*Protext is far and away the most useful word cruncher around*" ST CLUB

"*At last one that seems to fit most of what I call essential in a word processor*" PAGE 6

"*To sum up, Protext is probably the most powerful word processor on the Atari ST ... wins hands down as the all round package*" ST USER

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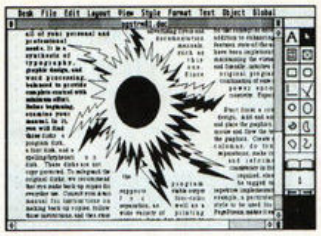
SOFTWARE CIRCUS

There's more to the ST than music, graphics and games...

PAGESTREAM
£171, SDL, 01-309 1111

An excellent desktop publishing package that offers superb tools for manipulating text and graphics. Style sheets can be implemented, objects can be rotated in any direction and plane, text from various



popular word processing packages can be used directly, many graphic file formats are supported and output is of very high quality.

CALAMUS
£458.85, Signa, 0252 341600

A real heavyweight in terms of DTP. The output is second to none. Every conceivable function you could possibly want has been implemented – and there are others you would never even think of. The control you have piping text from one box to another is extraordinary. Several fonts are supplied, but if you want more they'll cost you £100 each. Not cheap, but then this is a professional system.

TRIP-A-TRON
£34.95, Llamasoft, 07356 4478

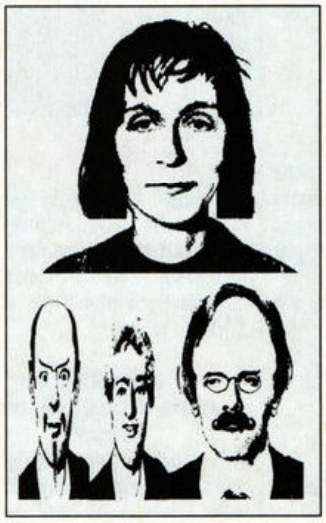
A bizarre creation from Jeff Minter – author of *Revenge of the Mutant Camels* and *Grid Runner*. Essentially *Trip-A-Tron* lets you produce amazing graphic explosions, wipes, fades and other special effects. You can create sequences of graphical mayhem and play them back. Yak says its best to do it to music.

AUTOROUTE
£149.50, Next Base, 0784 60077

You want to get from Bristol to Birmingham, Edinburgh to Exeter, Land's End to John O'Groates; but what's the best route? *Autoroute* is a journey planner. It can take you from A to B in the shortest, quickest or cheapest way possible. Maps can be drawn on screen and dumped to printer detailing the journey and roads to take. Very, very handy for anyone who does a lot of travelling.

THAT'S FUN FACE
£39, Cavendish, 01-323 4761

Originally intended as a replacement for the famous, albeit ageing, Identikit used by the police forces around the world, *Fun Face* lets you create faces – over five billion



of them. It really is unique. Apart from putting bits of human together, you can perform some very powerful graphical functions within the program's paintbox.

THAT'S WRITE
£129, Cavendish, 01-323 4761

Macros, mail merge, automatic indexing, *That's Write* or *WordStar* key commands, automatic save, numerous fonts, font designer, 150,000 word dictionary, support for graphics, up to five columns, automatic hyphenation, two file editing, extensive printer support. It really is superb for those that

LET'S GET SERIOUS

Your ST is not good just for entertainment; think of an application and the ST can do it. It's possible to run your business with an ST – there is some top class software to remove the pain from accounting, financial forecasting, storing vast lists of customer names and addresses, and virtually all the other aspects of businesses.

K-SPREAD 3
£89.95, Kuma, 07357 4335

For calculating your annual budget or simply adding up rows and rows of numbers you need a spreadsheet. *K-Spread* lets you work on multiple worksheets, provides Lotus file compatibility, has find and replace, and allows you to perform numerous mathematical functions.

DAATAFAX
£49.95, Kempston Data, 0908 677886

How about a computerised filoFax? Because that's what *DAATAfax* is. You can store names and addresses, telephone numbers and appointments. The whole lot can be dumped out onto filoFAX-compatible paper. There's a roll of sheets provided, but more is available from Kempston.

SUPERBASE PRO
£249, Precision, 01-330 7166

A very powerful and complete database management system. *Superbase* is a relational database with compact disk-like controls and a comprehensive selection of field types and filters. There's also a forms editor and programming language for building your own applications.

PERSONAL TAX PLANNER
£39.95, 0395 270273

Our friend Nigel uses the computing power of the Inland Revenue's mainframes, so why not play his game. With *PTP* it is possible to calculate your income tax liability for a given year – and check the tax man isn't ripping you off.

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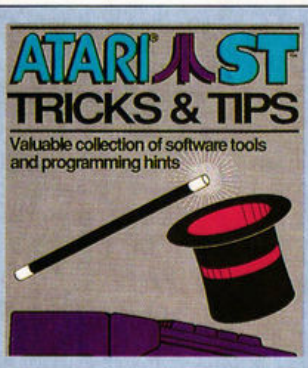

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COMPUTE! – Compute's ST Artist; Introduction to Sound and Graphics on the ST; Elementary ST BASIC; Atari ST: VDI

GFA DATA MEDIA – Software Development with GFA BASIC 3; GFA Advanced User Guide

GLENTOP – Using LOGO on the Atari ST; The Concise Atari ST 68000 Programmer's Reference Guide

KUMA – The Atari ST Explored

SYBEX – Mastering Sound and Music on the Atari ST

Any half-decent bookshop can order any book you want, so long as you know the name of either the author or the book title. Some of the books mentioned in this article are American, which is a bit trickier. Tell your bookseller the publisher's name, and you will probably find there is a UK distributor listed.

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want more than traditional word processors can offer.

PROTEXT
£99.95, Arnor, 0733 68909

The fastest and most powerful word processor for the ST. Text can be justified, centred or ranged left. Features include a 70,000 word dictionary, MS-DOS compatible command line interpreter (for performing disk operations etc), support for a huge variety of printers, extensive configuration file, word count undelete, two file editing and mail merge. For text processing it's unbeatable.

TWIST
£39.95, HiSoft, 0525 713716

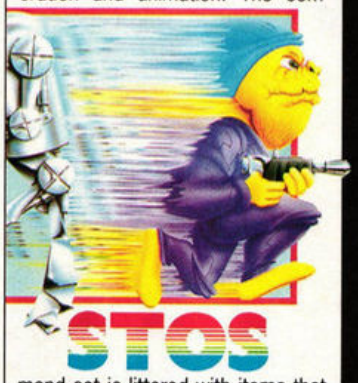
With this utility you can store numerous programs in memory and flip between them at the press of a key. Incredible! If you've got enough RAM you could have *Protext*, *PageStream*, *Degas Elite*, and *That's Fun Face* installed. One moment you're in *Protext* and the next you're in *PageStream*. Has to be seen to be believed.

STAC
£34.95, Incentive, 07356 77288

STAC – standing for ST adventure creator – is geared to displaying still graphics and text. Playing areas can be defined and objects and descriptions assigned to rooms. Several fonts are available and standard *Neochrome* pictures can be displayed with the text.

STOS
£29.95, Mandarin, 0625 878888

Not strictly a game creator, but more an implementation of BASIC with lots of commands geared towards scrolling the screen, moving chunks of screen data around, colour cycling, sound generation and animation. The command set is littered with items that only game programmers would find useful. A very neat language. A compiler is available for a further £20.



BECKERCAD
£250, Adamsoft, 0706 524304

This computer aided design package is suitable for producing 3D plans of houses and circuit diagrams. It features polygon drawing, freehand drawing, automatic line measurement, definable grid, multiple line widths, trim, divide, zoom and undo. Plotters and most types of printers (including Atari's laser and PostScript lasers) are supported.

THE GREAT SOFTWARE GIVEAWAY

Yes, it's true. You can get programs for free! The only catch is that you have to pay for the disk and a small handling charge (postage and packing). But that's a small price to pay for a disk full of potentially excellent utilities, demos, games and other bits and pieces.

These free programs are in the public domain. Numerous PD libraries dotted around the country distribute this software. A lot of software comes from places like Germany and America. The people who contribute to the PD aren't insane, they're just very benevolent.

Try contacting any of the suppliers below if you're interested in getting hold of PD software:

ALPHA COMPUTING
32 Meadow Drive, Halifax, West Yorks HX3 5JZ

BUDGIE UK
5 Minster Close, Rayleigh, Essex

COMPUTER CONNECTIONS
Ashlaw House, Euximoor Drive, Christchurch, Wisbech, Cambs

ENTERTAINMENT SOFT
4 Trelawney Drive, Tilehurst, Reading RG3 5WQ

FLOPPYSHOP ST
50 Stewart Crescent, Northfield, Aberdeen

GOODMANS PDL
10 Conrad Close, Meir Hay Estate, Longton, Stoke on Trent

MPH
10 Chandlers Court, Eaton, Norwich NR4 6EX

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55 Highfield Avenue, Waterlooville, Hants PO7 7PY

SOUTH WEST SOFTWARE LIBRARY,
PO Box 562, Wimborne, Dorset

ST CLUB
9 Sutton Place, 49 Stoney Street, Nottingham, NG1 1LX

MIND YOUR LANGUAGE

Once you're tired of *Tetris*, become weary of *Word Perfect*, and done *Degas* to death, you may start to wonder if there is more to life than running programs other people have written. What about writing your own? If you've dabbled with *First BASIC* given away with the Powerpack you'll know something of the problems and triumphs that programming can bring. There are plenty of programming languages to choose from, and each has its own benefits.

BASIC
The most popular programming language by far is BASIC – a cut down version of which comes with the Powerpack. BASIC's advantages are friendliness to the first time user, its interactivness and its forgiving nature with errors.

POWER BASIC
£49.95, HiSoft, 0525 718181
This is the full-featured version of *First BASIC*. It does everything *First BASIC* can do and comes with a compile-to-disk option. This means you can write programs in BASIC and turn them into fast machine code programs which can be executed from the Desktop. The procedure for this is called compiling.

GFA BASIC V3
£59.95 interpreter, £29.95 compiler, 0734 794941
BASICs can be interpreted of compiled. Programs written in an interpreter require a shell to run in – compiled programs can be run from the Desktop. *GFA BASIC* is interpreted, although a compiler option is available at extra cost. *GFA BASIC* has gained a massive user base world wide.

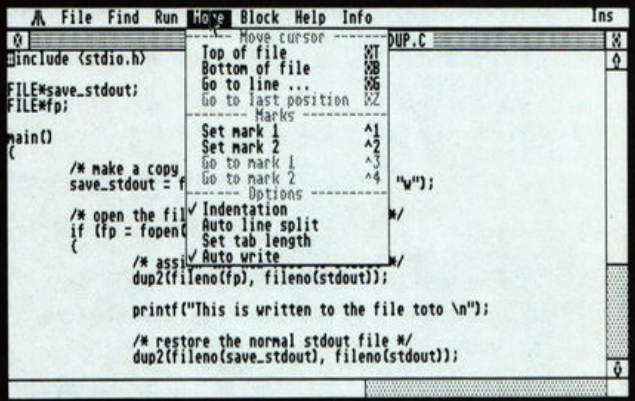
C
Probably the second most popular language, C claims to offer near machine-code speed without the complexity of low-level programming. Many business programs and utilities are written in this language because the source code is portable from one machine to another. C can be hard to read because its source lacks the verbosity of other languages. It doesn't suffer bugs gladly.

C INTERPRETER
£49.95, HiSoft
A fantastic introduction for beginners as this interpreted version of C is fast, friendly and provides a perfect environment for learning a tricky language. You will need a compiler or a normal implementation of C if you ever want to run C Interpreter files from the Desktop.

ASSEMBLY LANGUAGE
Because compilers generate machine code by set formulas, programs created with high-level languages are rarely as fast as programs written directly in 68000 Assembler. Assembler is very hard to write because it takes you 10,000 lines of source to do what 1000 lines of C would do. Mistakes aren't tolerated at all, and usually cause the machine to crash. Assembler is the only language to use if you want to get to the heart of the machine and produce very fast, efficient code.

HiSoft
DevpacST
Assembler/Debugger/Linker
Atari ST Computers

DEVPAC V2
£59.95, HiSoft, 0525 718181
Do you ever get the feeling that HiSoft has a monopoly on programming languages? HiSoft's assembler lets you create the source code, assemble the source into object code, debug and execute the finished program from within the same environment. As assemblers go, this is one of the best examples you'll find on any machine.



■ **C Interpreter. A combination of pull-down menus and keyboard clicks gets you round the system.**

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STOS – The Game Creator is the number one best selling package which has enabled thousands of ST owners to create stunning games quickly and easily.

The package comprises three discs containing STOS Basic, sprite editor, room designer, character set editor, icon editor, music editor, screen compacter and three superb games; a 280-page manual packed with examples and quick reference card.

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– ST/Amiga Format

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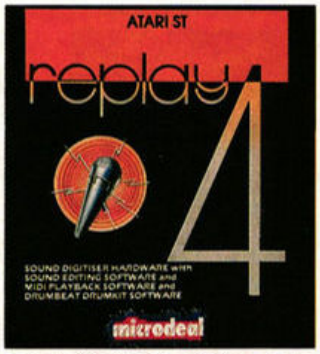
EXPANDING HORIZONS

Plug more in – get more out. There are many hardware devices that, when attached to your ST, make the machine even more powerful.

REPLAY 4
£79.95, Microdeal, 0726 68020

Many games given away with the Powerpack have very realistic


ATARI ST
replay 4
SOUND DIGITISER HARDWARE WITH SOUND EDITING SOFTWARE and MIDI PLAYBACK SOFTWARE and DRUMBEAT DRUMKIT SOFTWARE
microdeal

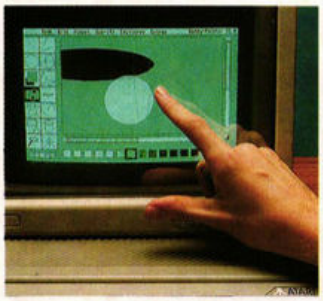
sound effects and music – some are so convincing that you could swear they were real. In fact, these sounds very often are real. The hardware that does the sound grabbing is known as a sound sampler. *Replay 4* makes it possible to capture sounds at various frequencies and then edit them. If you fancy yourself as a bit of a Paul Hardcastle, then this is the hardware for you.

ROBOKIT
£79.95, Atari, 0753 333444

As its title suggests, *Robokit* is designed to drive small robotic kits via the ST's cartridge port. The manual recommends Lego Technic sets – these don't come cheap at around £100, but contain everything you might need. The software allows you to build a replica of the robot on screen and assign movement icons to it. If you've got everything connected properly, clicking on such an icon will move the robot in a specific direction for so many seconds at a predetermined speed. Educational.

TOUCH WINDOW
£458.85, Eagle Computers, 0222 390286

A touch screen is an alternative way of communicating with your machine. Rather than using a mouse or joystick you use your finger to point and select things. All the mouse's operations can be simulated from the touch window.



A transparent conductive layer sits in front of the monitor. When you press the screen, signals are sent to the computer informing it where your finger is in relation to what's on the screen.

VIDI
£99.95, Rombo Productions, 0506 412695

Grabbing everyday images for storage inside a computer is the task of the video digitiser. *Vidi*, the cheapest and best, offers real-time grabbing. In other words, you can capture action as it happens and not miss a second. Images can be captured in high or low resolution and edited later in an art package. Pictures in low resolution appear as 16 grey scales rather than true colour. The software lets you capture images in small windows on the main screen and animate them later.

SPECTRE 128
£199, HiSoft, 0525 718181

As if your ST wasn't enough to be getting on with, this device makes it possible to emulate the Apple Macintosh. So good is the emulation that Mac software runs faster on the ST than it does on a Mac Plus. You won't believe it until you see it running. Do note that for serious use the emulator requires a hard drive and 1Mbyte of RAM.

THAT'S PC SPEED
£379, Cavendish, 01-323 1399

IBM compatibility? No problem. This internal upgrade lets your ST run PC software four times faster than a 4.77Mhz XT. Serial and parallel ports, sound, CGA and Hercules graphics modes, and the mouse are all emulated perfectly.

HANDY SCANNER
From £229.88, Cameron, 01-499 9192

Scanning is a reasonably cheap and easy way of getting graphics and text into a machine. And it's a lot less hit-and-miss than using a

video digitiser. For desktop publishing, the advantages are enormous. Two types exist: hand-held and flatbed. The hand-held versions can be rolled over a piece of artwork while the flatbed type accepts A4 (sometimes larger) sheets.

MEMORY UPGRADES

The number of software packages that require a megabyte of memory is on the increase. While there aren't any games at present that need 1Mbyte, there are several that benefit from extra memory. The games in question either load completely into memory or provide better sound and graphics. Many serious or productivity titles can really do with the extra memory. Your data files can be larger, which is obviously more useful.

No matter how much memory your ST has you will always want more. The ST can have a maximum of 4Mbytes (4096K). Third Coast offer two boards; one enables the ST to have 1Mbyte of memory while the other offers a massive 4Mbytes. The 1Mbyte board costs £49 while the 4Mbyte board goes for £30 more. Third Coast is on 0257 426464. The prices quoted are for the boards only – and not the RAM.

UNDER THE BAUD WALK

Talking to other computers or receiving information from electronic bulletin boards hundreds of miles away is not as far fetched as it sounds. Just four things are necessary: a computer, modem, software and BT phone socket.

There's nothing particularly mysterious about communications. Your computer transmits information down, and receives data from, the telephone line via a device called modem. The software and modem ensure that the data you receive is identical to what was originally sent.

A modem is necessary for sending information down the line. Probably the best first timer's buy is the *Pace Linnet* at £175. Software-wise you should go for Atari's £49.95 *Fastcom* package. Pace's hardware and Atari's software are enough to guarantee you can log on to various bulletin boards around the country and meet other ST owners.

As for bulletin boards to ring, there really are hundreds. Following is a selection of the best:

■ Micronet's bulletin board.

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Compunet	01-997 2591
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Aardvark	0727 56939
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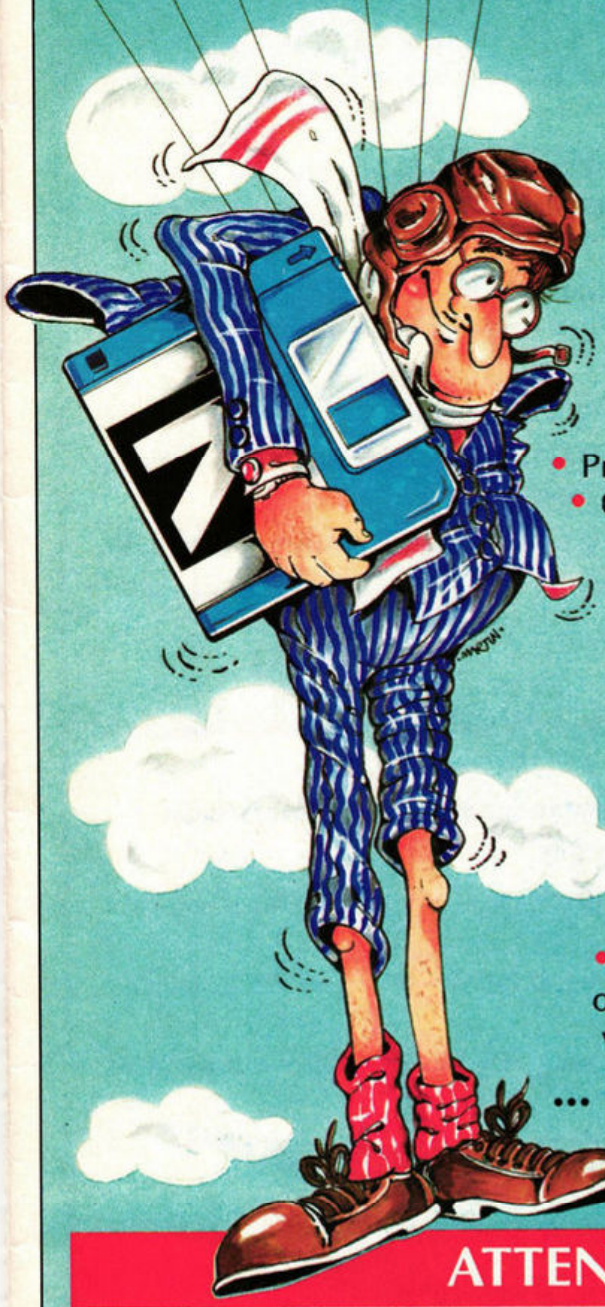

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K-RAM	£29.95	K-SPECT *inc. interface*	£228.85
K-RESOURCE2	£39.95	K-SWITCH2	£29.95
K-RHYMES	£19.95	K-WORD2	£39.95
Book: THE ATARI ST EXPLORED			£ 8.95

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You won't need the jump leads to start with GFA BASIC

Over **100,000 GFA BASIC** systems have sold to serious Atari ST users. GFA realises the needs of both the beginner and experienced Atari ST programmer, and provides the tools, documentation and support for both.

Other Basics dont allow you to devlop your code with an interpreter, each line's syntax being checked as you enter it, and yet still achieve the speed advantage of a compiled Basic when the development is complete. **Learn fast! Develop fast! Run fast!**

GFA BASIC is supported by regular tutorial features in major UK ST magazines

GFA BASIC users have their own independent bi-monthly GFA USER magazine, with tutorials, tricks and tips in using GFA BASIC and other GFA development tools.

GFA BASIC users have access to over 20 disks full of public domain (free!) software written with GFA BASIC. The best way to learn is by documented examples.

Now for the fine tuning

To get you started, we have put together the **GFA Starter Pack**, especially for the new owners of the Atari ST. All of the following for only £19.95:

1. **GFA BASIC 2.0 INTERPRETER:** Complete with demo software and 314 page reference manual.
2. **GFA BASIC 2.0 COMPILER:** (Compiler+Interpreter RRP £49.95)
3. **GFA ADVANCED PROGRAMMING BOOK:** (RRP £15.95) 230 pages of tutorials in the use of GFA BASIC with GEM,BIOS,XBIOS, and RSC files.
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DESKTOP

Two pages of tips, hints, wrinkles and dodges.

Read all the bits the manuals try to hide.

DO THE DISK SHUFFLE

The standard procedure for inspecting the contents of several disks is to insert a disk in the drive and double click on the drive icon. Fine so far. But when it comes to viewing the contents of another disk, a laborious process is involved. Click on the close window icon, remove the disk from the drive, insert the new disk and double click on the drive icon. What a performance! Thankfully there are a contingent of keyboard controls that cut down on the clicking.

A handy trick is simply to insert one disk and produce a window with the disk's contents. To find out what is held on another disk simply remove the first disk, insert the second and press the Esc key located at the top left of the keyboard. This keyboard shortcut has the effect of updating the open window with the contents of the new disk.

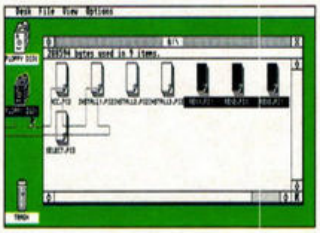
SELECTION EXCEPTION

When you want to select a group of files or folders (for erasing or copying, say) it is usual to press the left mouse button and drag the mouse over the desired files. In reality you never want all the files in a given area – or you may want some that you can't reach in a single mouse drag. By holding down Shift and clicking the left mouse button when the pointer is over a file, your choice is added to the currently active selection.

SINGLE DISK DRIVING

If your system consists of a single drive, copying files to and from other disks can prove very confusing.

Copying a file is simply a matter of selecting the file's icon and dragging it to where you want the copy to go. If you want to copy a file from one disk, sitting in drive A, to another disk, don't drag the file



■ **Click, drag, drop. Copying is as simple as that.**

and plonk it on the drive A icon. Doing so will recopy the file onto the original disk – not very useful. Instead, drag the file to be copied onto the drive B icon. True, you haven't got a second drive; GEM knows this. A message asking you to insert disk B into drive A will appear. Do just that. Insert the disk you wish to copy the file to when requested. Copying a file takes several disk swaps. By taking note of the messages all will go smoothly.

RIGHT ON

Only one window can be active at any time; the active window is indicated by a highlighted border. If you want to run a program held in an inactive window – or copy a file from an inactive window to an active window – the normal procedure is to click once on the appropriate window to activate it and then continue from there. A much simpler method is to hold down the right mouse button while clicking and dragging or double clicking with the left mouse button.

ACCESSORIES

Unlike standard .PRG or .TOS files, Desktop accessories (recognisable by their .ACC extensions) can't be executed by double clicking on them. Instead GEM must be given instructions to load them at start up.

Accessory files must be present in the root or main directory

■ **Once loaded, accessories can be found in the Desk menu.**

so that GEM can find them. Once installed, an accessory is run by pulling down the Desk menu and clicking on the accessory's name. Up to six accessories can be held in memory at once – but they take up memory all the time the ST is running, so only install those you really need.

Make sure all the accessories you want to install are in the root directory of a disk. Hit the reset button once you've got them in that situation; this forces them to automatically load into the ST's memory.

THE NAME GAME

Look through your collection of disks and you will probably notice that file names consist of a maximum of eight characters followed by a possible three-character extension. The extension can tell you a lot about the file:

DOC – usually a help file which contains information about a program or disk.

PRG – an executable GEM program. Double clicking on a file of this nature will start the program.

TOS – an executable file that doesn't require the use of windows, icons or the mouse pointer.

TTP – a TOS takes parameters file. Clicking on this type of file results in a message asking you to enter some information for the program to use.

ACC – an accessory file. These can't be run in the usual way: they automatically load at boot time if present in the root directory.

RSC – a resource file which contains box, alert and drop-down menu information.

BAS – BASIC files generated by First BASIC.

VIEW TO A READ

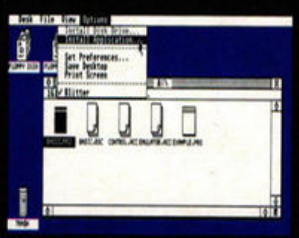
When displaying a non-program file from the Desktop (by double clicking on any file that hasn't got a PRG, TOS, ACC or TTP extension and clicking on the View item in the

YOUR QUICK GUIDE TO INSTALLING APPLICATIONS

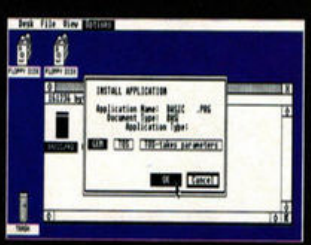
It's a hassle to have to load an application (graphics package, MIDI sequencer, word processor, spreadsheet or whatever) and then load a file into it. It's so much easier to double click on the data file and have the application boot up automatically with the data file loaded into it.

It's possible to alter the Desktop so that double clicking on a .BAS file causes First BASIC to load with the file you clicked on in memory ready for editing or running.

■ **First highlight the executable file you wish to install. This is done by single clicking on a file with a .PRG or .TOS file extension .**



■ **Move the mouse pointer so that it rests over the 'Options' menu and click on Install Applications when the menu hits the screen.**



■ **A box will appear with various options. Type in BAS when the 'Document Type:' prompt appears. Finally, press Return or click on OK.**

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request box) the text can be incremented one line at a time by pressing Return or a page at a time by pressing the space bar. Exit by pressing Q or Control and C simultaneously.

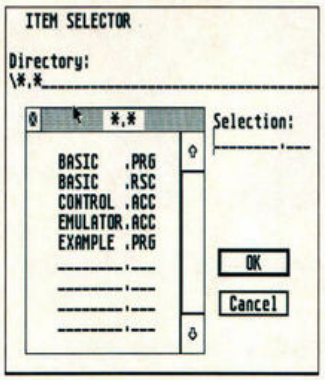
PICK AND SELECT

The standard GEM file selector used by virtually all ST software isn't mentioned anywhere in the ST manual, so here are some notes concerning its use.

A file can be selected by double clicking on the appropriate filename or by typing in the filename at the Selection prompt and hitting return.

A list of all available files is shown in the box headed by the title bar. Only nine filenames can be displayed in the box at once; the others can be viewed by clicking on the arrows at the top and bottom of the box. Alternatively the scroll bar can be dragged upwards or downwards. Files with a diamond icon to the left of them are folders, not files. Their contents can be viewed by clicking on them once.

If you click on a folder the new pathname (the previous path with



the new folder name added to it) appears under the Directory heading. This can be altered manually. It can be reached by using the up arrow key or by positioning the mouse pointer on the Directory line and clicking. The left and right arrow keys move you through the directory pathname. You can enter characters or remove them (Backspace). Pressing Esc clears the pathname completely; clicking on the title bar restores the pathname to the root directory.

To register any changes to the pathname, either click on the title bar or anywhere underneath it. To exit a folder click on the 'close box' icon on the left of the title bar.

Incidentally, as well as using the wildcard character * (which is used to replace either the filename or extension as in PROGRAM.* or *.BAS) in pathnames, the question mark can also be used. This replaces a single letter in the filename or extension.

MONEY FOR NOTHING

Well, that's not altogether true – but almost. *ST Format* magazine publishes several pages of hints and tips for the ST every month. There's something for the beginner and hardened hack alike. However, your contributions are wanted. Tips on anything and everything ST related are needed. Hardware modifications, software tricks, undocumented routines, hints on using the Desktop... everything! In return, the star tipster each month wins anything up to £50. So come on, rush your GEMs to Desktop, ST Format, Future Publishing, 4 Queen Street, Bath, BA1 1EJ.

ST TO PC

The ST can read and write 3.5-inch PC-formatted floppy disks. Consequently swapping data between the two systems is no problem. Just be careful not to give a PC an ST formatted disk; the less intelligent MS-DOS machine can't handle the slightly different format. You can format a PC disk on an ST, but special software is required.

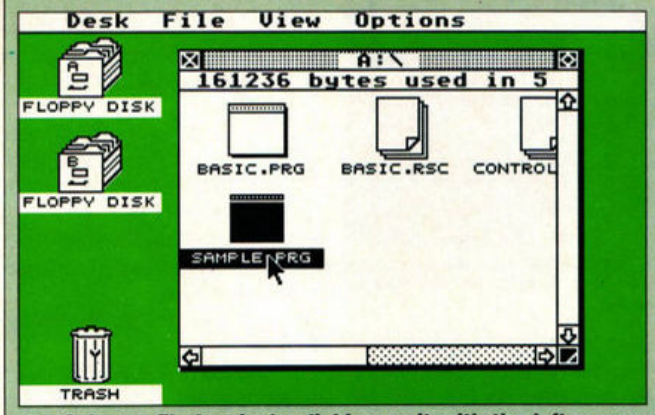
GEM IS A TOSSER

GEM, TOS, CPM 68K... What's it all about? The operating system in the ST is called TOS.

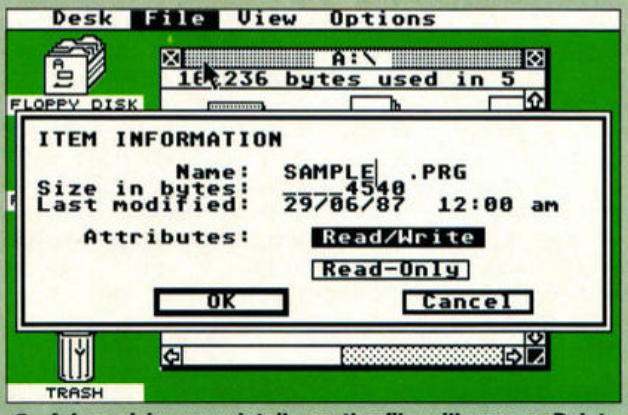
Digital Research's CPM 68K was to be the ST's OS, but was ditched because it was too slow. A new operating system called GEM was put together (again by Digital Research).

GEM is the hardware-independent part of TOS, and appears as the drop-down menus, icons and windows that are so characteristic of the ST. GEM looks and behaves the same no matter which machine it runs on or which resolution is runs in. The hardware dependent bits of TOS look after low level access to the ST's hardware (disk drive, screen and keyboard).

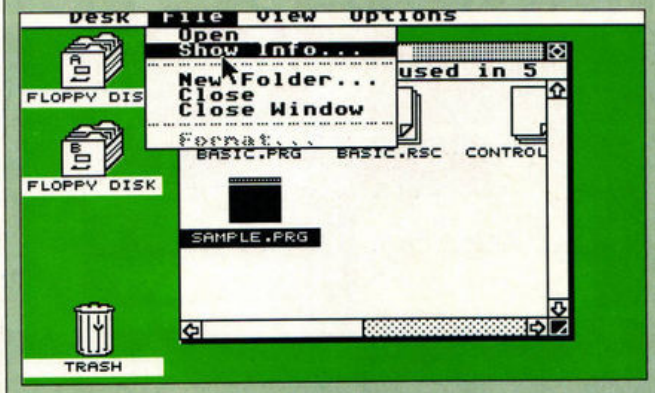
HOW TO RENAME A FILE



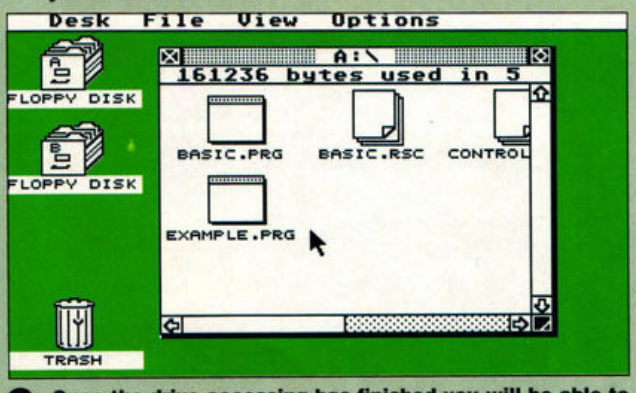
1 Select a file by single clicking on it with the left mouse button.



3 A box giving you details on the file will appear. Delete the old filename by pressing Esc or Backspace and then type in the new name. Press Return or click on OK when you've finished.



2 Move the mouse pointer to the File menu and select Show Info.



4 Once the drive accessing has finished you will be able to see the renamed file.

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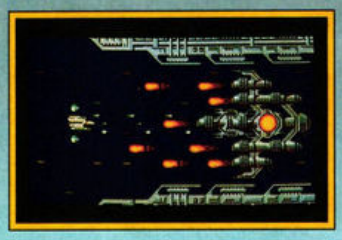

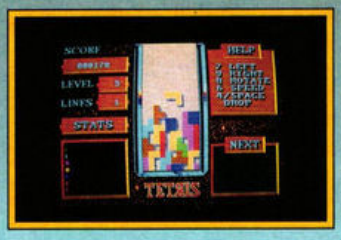

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"Menace will have you hooked for hours on end. The addictive "just one more game" feeling hits you every time."

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Page 6
"Menace is a superb game which is impressively presented. Menace excels in terms of playability. It is a highly addictive game with enough variety for you to keep wanting to come back for more."

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Screen Shots From Atari ST Version

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